

401 KAR 59:105. New process gas streams.

RELATES TO: KRS Chapter 224

STATUTORY AUTHORITY: KRS 224.10-100

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100 requires the Environmental and Public Protection Cabinet to prescribe administrative regulations for the prevention, abatement, and control of air pollution. This administrative regulation provides for the control of emissions from new process gas streams.

Section 1. Applicability. The provisions of this administrative regulation shall apply to each affected facility which means any process gas stream which:

- (1) Is not elsewhere subject to a standard of performance within this chapter with respect to hydrogen sulfide, sulfur dioxide, or carbon monoxide; and
- (2) Commenced on or after the classification date defined below.
- (3) With respect to carbon monoxide, the provisions of this administrative regulation shall apply to each affected facility which has a potential to emit more than 1,000 tons per year of carbon monoxide and is located in an area classified nonattainment for carbon monoxide in 401 KAR 51:010.

Section 2. Definitions. As used in this administrative regulation, all terms not defined herein shall have the meaning given them in 401 KAR 50:010.

- (1) "Classification date" means June 6, 1979.
- (2) "Process gas stream" means any gas stream emitted from any process including, but not limited to, petroleum refineries, by-product coke plants, grey iron cupolas, blast furnace, basic oxygen steel furnace and coal conversion plants, except process upset gas as defined in this section.
- (3) "Process upset gas" means any gas generated by a process unit as a result of start-up, shut-down, upset, or malfunction.
- (4) "Process unit" means any segment of the plant in which a specific processing operation is conducted.

Section 3. Standard for Hydrogen Sulfide. No person shall cause, suffer, allow or permit the emission of hydrogen sulfide in a process gas stream to exceed ten (10) grains per 100 dscf (165 ppm by volume) at zero percent oxygen except that sources whose combined process gas stream emission rate totals less than two (2) tons per day of hydrogen sulfide shall either reduce such emissions by eighty-five (85) percent or control such emissions such that hydrogen sulfide in the gas stream emitted into the ambient air does not exceed ten (10) grains per 100 dscf (165 ppm by volume) at zero percent oxygen.

Section 4. Standard for Sulfur Dioxide. No person shall cause, suffer, allow or permit the emission of sulfur dioxide in a process gas stream to exceed 28.63 grains per 100 dscf (250 ppm by volume) at zero percent oxygen except that sources whose combined process gas stream emission rate totals less than four (4) tons per day of sulfur dioxide shall reduce such emissions by eighty-five (85) percent. Sources which have a potential to emit less than 100 tons per year of sulfur dioxide shall be exempt from this standard.

Section 5. Standard for Carbon Monoxide. No person shall cause, suffer, allow, or permit the emission of carbon monoxide in a process gas stream or a waste gas stream, unless the gases are burned at 1,300°F for five-tenths (0.5) seconds or greater in a direct flame afterburner or equivalent device equipped with an indicating pyrometer which is positioned in the working area at the operator's eye level.

Section 6. Test Methods and Procedures. Except as provided in 401 KAR 50:045, performance tests used to demonstrate compliance with Sections 3, 4 and 5 of this administrative regulation shall be conducted according to the following methods, filed by reference in 401 KAR 50:015:

(1) Reference Method 11 for Hydrogen Sulfide. The sample shall be drawn from a point near the centroid of the gas line. The minimum sampling time shall be ten (10) minutes and the minimum sample volume shall be 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two (2) samples shall constitute one (1) run. Samples shall be taken at approximately one (1) hour intervals.

(2) Reference Method 6 for Sulfur Dioxide. Reference Method 1 shall be used for velocity traverses and Reference Method 2 for determining velocity and volumetric flow rate. The sampling site for determining sulfur dioxide concentration by Reference Method 6 shall be the same as for determining volumetric flow rate by Reference Method 2. The sampling point in the duct for determining sulfur dioxide concentration by Reference Method 6 shall be at the centroid of the cross section or at a point no closer to the walls than one (1) m (thirty-nine (39) inches) if the cross-sectional area is five (5) square meters or more and the centroid is more than one (1) meter from the wall. The sample shall be extracted at a rate proportional to the gas velocity at the sampling point. The minimum sampling time shall be ten (10) minutes and the minimum sampling volume shall be 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two (2) samples shall constitute one (1) run. Three (3) runs will constitute compliance test. Samples shall be taken at approximately one (1) hour intervals. (5 Ky.R. 433; 1036; eff. 6-6-1979; 8 Ky.R. 517; 883; eff. 4-7-1982; TAm eff. 8-9-2007; Crt eff. 11-21-2018.)